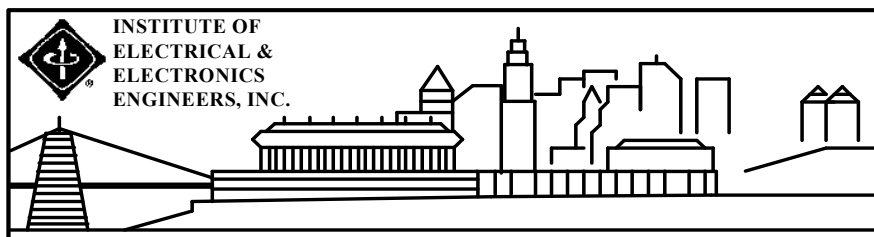


**IEEE CINCINNATI
SECTION
NEWSLETTER
SEPTEMBER 2000**



OCTOBER MEETING

PROJECT MANAGEMENT OF THE FORT WASHINGTON WAY PROJECT

DATE : Thursday, October 26, 2000

PLACE : Cincinnati Museum Center at Union Terminal

TIME : 7:00 p.m. - Meet in the Collett Gallery (see below)
9:00 p.m. - Adjournment (approximate)

NOTE THAT THIS IS NOT A DINNER MEETING!!!!

THE CINCINNATI SECTION NOW HAS ITS OWN VOICE MAILBOX for making reservations for meetings or for providing comments or suggestions to **YOUR** Executive Committee.

Please call the Cincinnati Section Voice Mailbox at 629-9380, by **Noon, Tuesday, October 24, 2000** if you plan to attend. Please leave your **Name** and **IEEE Member Number**.

ABOUT THE MEETING: The presentation, which will be given by Mr. Don Gindling, Engineer with the City of Cincinnati, will discuss the planning, scheduling and execution of the Fort Washington Way construction project.

Cincinnati Museum Center is holding the Collett Gallery for our meeting. Parking is \$2.50 a car, in front of the building. Collett Gallery is located to the back of the rotunda, on the left, near the Omnimax entrance.

There are food concessions in the rotunda, where a meal can be had.

IMPORTANT NOTICE REGARDING THIS NEWSLETTER

Due to increasing publication costs and decreasing revenue from various sources (including the ISA/IEEE show), the IEEE Cincinnati Section needs to reduce our expenses in order to ensure the viability of the Section. Beginning in January 2001, this newsletter will only be available via the Section's web page at <http://ieee.cincinnati.fuse.net/> or by e-mail unless you contact us. After January, depending on the response, the content of the newsletter may be reduced to only a notice of upcoming Section meetings and a summary of the remaining articles. The full articles would be available on the web page or via e-mail.

In order to continue receiving the hard copy of the newsletter, you must either call the Section's voice mail at 513-629-9380, or contact Bob Morrison (Editor) at 513-287-3697 or by e-mail at j.r.morrison@ieee.org. Provide your name and member number. In case there are questions, please include a daytime telephone number as well.

To subscribe to the electronic version, contact Bob Morrison.

UPCOMING SECTION MEETINGS AND TOPICS

October 19, 2000	Executive Committee Meeting - Evendale Buffet
October 21, 2000	Senior Membership Workshop (see below)
December 7, 2000	Section Meeting - Fuel Cells or Microturbines
January 2001	Section Meeting - Electric Industry Deregulation
February 2001	Section Meeting - ESC Banquet
March 2001	Section Meeting - Harris HDTV Tour
April 2001	Section Meeting - PACE
May 2001	Section Meeting - DSL
May 2001	Section Meeting - Tour of Kings Island

Topics are tentative at this time. Detailed information about the Section Meetings will be included in that month's newsletter. If you are interested in attending an Executive Committee Meeting, please contact either Ron Harbaugh (352-2941, Ron.Harbaugh@CinPD.RCC.ORG) or Jack Beckmeyer (353-3834, j.beckmeyer@ieee.org).

CHAIR'S MESSAGE

by Ron Harbaugh, Section Chair

Probably some of the Section membership does not know the Bengals cancelled our tour scheduled for September 21 as was announced in our September newsletter. Thanks to Jack Beckmeyer, we had a September Section meeting and presentation. Jack had to scramble to find a speaker, a meeting location, and a new date that could be announced through the electronic medium.

The Bengals have their problems in the management arena. Management of a new stadium, plus their other problems, have them a little busier than they planned to be. They have a learning curve to contend with right now. Perhaps we can take a tour of the stadium next year, if and when their situation settles down. They did invite us back and sent their apologies.

I am curious to know if anybody went to the stadium on September 21 expecting the tour. Send me an email message or phone message if you did go down there and now you need to say something to someone. In the fast paced world of today, every IEEE member needs and should have access to the web and electronic mail either at work or home. That is the only way your Section media person can get you the newsletter and other Section information to you. The web sites and the email broadcasts get far more information to you than we can send out through the US mail. The newsletter that you receive in the mail is going to get smaller, or nonexistent. Access to all IEEE information, including the Section information, is at <http://www.ieee.org>. Not hard to remember. And you should check it often.

Jim Lefeld, Distributed Generation manager at Cinergy, gave us a presentation about fuel cell technology on September 28, at the Evendale Buffet. Jim's program on fuel cells was loaded with information that brought the prospect of an alternative power source down to a personal level. It looks possible to me that sometime in the future individual households will invest in cogeneration units for installation in their own homes. We appreciate Jim standing in as our speaker at the last minute. He gave us a lot of information about alternative power sources. We can have Jim back next year after the cost of utilities gets the member's attention.

Jack Beckmeyer and Laurie Tappel are setting up October's meeting at the Union Terminal Museum. The presentation will cover the engineering of the Fort Washington Way project. This meeting is in conjunction with an engineering display at the museum. I encourage you to be there. See you there.

UPGRADE TO IEEE SENIOR MEMBER

The Cincinnati Section of IEEE is again sponsoring a Senior Member upgrade workshop for section members on Saturday, October 21, 2000, (9:00 AM - 1:00 PM) at the University of Cincinnati's College of Applied Science.

IEEE Senior Member grade is the highest IEEE membership grade that can be obtained by application. Often-cited reasons for applying include recognition of accomplishments by peers, professional advancement, and personal satisfaction.

For more information on IEEE senior member grade or to receive a senior member application kit, send an e-mail request to "application-request@ieee.org" or contact the IEEE by phone at 800-678-4333. All that is required for the workshop is a completed Senior Member application form and a current copy of your resume.

Section members still interested in elevating their current member status to Senior Member grade should contact Jim Everly at (j.everly@ieee.org) or telephone at (513) 777-7129 if you have questions concerning the workshop. An answering machine is provided for your use in case Jim is not in when you call.

Jim Clark: Creator of Silican Graphics, Netscape and Healtheon *Submitted by R. J. Reiman, Historian*

The following is a review of book entitled "The New New Thing" by Michael Lewis, published by W.W. Norton & Company, New York & London, year 2000.

The author describes Jim as the world's most important technological entrepreneur, the true representative of the coming age. He is the man who created three separate billion dollar companies, Silicon Graphics, Netscape and Healtheon, and he is not finished yet. Despite the variety of these achievements, Jim Clark's passion is to successfully design the world's largest single-mast sailing vessel, "Hyperion" which would be controlled by computers more complex than those used for a 747.

The book further describes the shift in American culture, away from conventional business models and definitions of success. Included are the changes on raising money, control over majority stock ownership and how Silicon Valley initial stock offerings (IPO's) are successful, based mainly on ideas for the future of the Internet and of technology.

Jim Clark was born in Plainview, Texas, in a dysfunctional family. His father became an alcoholic, abused his mother, and Jim was kicked out of high school when he was sixteen. He enlisted in the Navy and proceeded to fail the intelligence test, based partly on his interpretation of how to answer multiple choice questions. He was sent to sea, given the most menial jobs and there he was told he was stupid and bullies tossed food on the floor in order to make him do extra clean-up work. When he returned to shore, he was retested for math and scored the highest grade in the class. When another test was also successful, he was assigned to teach basic algebra to incoming recruits. An instructor suggested he take night classes at Tulane University. Within eight years, he had a college degree, a Masters in physics, and a Ph.D. in computer science.

He had not settled down to conventional ways. Between 1970 and 1978 he had married at least twice, sired at least two children, held at least four jobs, mostly at universities and was fired for insubordination at New York Institute of Technology. He did post graduate work at University of Utah with the forefather of computer graphics, Ivan Sutherland.

At 38 years old, when his second wife left him, he had a transformation. He wanted to achieve SOMETHING and get out of the self-inflicted chaos. He went to Stanford University and worked with the best graduate students

designing a chip that would change the art and science of computer graphics, and would lead to a new company, Silicon Graphics. Stanford's Palo Alto Research Center (PARC) encouraged their graduates to strike-out on their own with no University claims to hamper them. The Silicon Graphics (SGI) could aid a designer by creating a three dimensional image of a machine such as a car or an airplane. The idea was revolutionary in the 1970's, and it was first accepted by the likes of Steven Spielberg and George Lucas who incorporated the techniques in their movies.

In the course of obtaining venture capital, Clark lost control of a company which was to go "conventional" under other's control. He was denied the lion's share of the money which went along with stock ownership. It would not happen again.

His next venture was to develop a device that would open up the Internet for popular use. His first attempt was to use the TV set to interact with the user. Time Warner Cable was in the process of replacing their copper cables to the home with fiber optic cables. They were persuaded to authorize a design to do the interacting using the television (ITV). After it was built, they set up a demonstration of its use in Orlando, Florida. The "black box" which would make the TV interactive would cost each customer \$ 5,000. When the project was unveiled to the public, Jim Clark's name was never mentioned. Jim left Silican Graphics.

Jim contacted Marc Andreessen, a 22 year old not long out of the University of Illinois who had designed Mosaic which featured software for the user to travel around the internet. They discussed ideas and came to the conclusion that the personal computer (PC) was a better choice to interact with the Internet than ITV. Clark and Andreessen hired Marc's college buddies and started up Netscape. This time, Clark obtained venture capital from Kleiner Perkins on terms where they held 15 percent, and Clark 25 percent, terms unheard of up to now. The individuals who designed and developed the idea would receive the money and control the company, not the capitalists.

Six months after Netscape went public, Clark pressured his board to offer shares to the public (IPO). Netscape was years away from making a profit, but had a great idea involving the Internet and technology. Clark won out and the IPO made him a billionaire and Andreessen and his team of developers became millionaires. Jim Clark acquired a new power, the idea of being Jim Clark, a man who could come up with an idea to invent the future.

Always in his mind, however was the prospect that Microsoft with their control of the operating system and mega capital would either buy into a successful business {by force if necessary} or develop a rival that would force it out of business

In between ventures, Clark's sailboat was built, the attempt to control it by computers was begun, a an ocean voyage was conducted. Many problems, some caused by the ocean itself ensued and the project is still a work-in-progress.

Jim Clark's experience with MD's, hospitals and insurance companies led to his next venture. Couldn't these plus the patient use the Internet to interact eliminate the half a trillion dollar "waste" from paper work. The software to link the entire health care industry wold be complicated and difficult to do. Selling the idea was also a momentous challenge. Clark turned to Mike Long who had built a computer service business in Texas, to lead the new business. After developing a design, the new company now called Healtheon was ready to go public. This was in July, 1998, when the stock market took a tumble on news that the Russian government would default on their debt. In January 1999, the stock market began rising faster than it had fallen in 1998, and Healtheon went public and brought another billion to Jim Clark.

Jim Clark is not finished. He is working on linking the millionaires of the world to create their own bargaining agency to change banking and financing.

TRAVELING EXHIBITION, "BREAKING THROUGH: THE CREATIVE ENGINEER", IN CINCINNATI THIS FALL

The National Society of Black Engineers (NSBE) at the University of Cincinnati in conjunction with the Engineering Tribunal and Society of Women Engineers is currently sponsoring the traveling exhibition, "Breaking Through: The Creative Engineer." The exhibit will be in Cincinnati this fall for a twelve – week venue (October 1, 2000 – December 29, 2000). "The Creative Engineer" is sponsored by the Association of Science Technology Centers (ASTC) and explores how creativity is expressed in engineering through a series of eight case studies. The exhibit is an interactive, full-scale museum exhibition piece which includes puzzle stations, artifacts, and computer stations. The Cincinnati Museum Center has agreed to house the display during its Cincinnati venue.

The purpose of bringing the display to the University of Cincinnati is two - fold. First, the display will be used as a recruiting tool for both the College of Engineering. Second, the display will be used to inform the public of the many great accomplishments of engineers and to stimulate public interest in the field.

The NSBE is currently seeking input, which can enhance the quality of the exhibit. This is where IEEE and its membership can be of most help. The Museum Center is allowing the NSBE to host additional programs at Union Terminal that would support the exhibit. The NSBE would appreciate any ideas in the way of presentations, programs or guest speakers that are engineering and can be hosted at the Museum Center. Please direct all ideas to Mr. Scott Davis at 513-482-5325 (work), 513-556-7456 (home), or swdavis@messer.com.

The Creative Engineer is a unique and innovative exhibit and speaks to the more colorful side of a traditionally intimidating subject. Bringing the display to Cincinnati will create a better understanding of our highly technical field. The NSBE looks forward to working with you to accomplish this task. Please feel free to visit the exhibit web site at www.eweek.org/1999.nbm/index.html. If you have any questions or concerns, please do not hesitate Mr. Davis at the above mentioned phone numbers.

IEEE NEWS

THE IEEE-USA's PRESIDENT'S COLUMN: ON THE IMPORTANCE OF PROFESSIONAL DEVELOPMENT

Merrill W. Buckley, Jr., July-August 2000

IEEE-USA emphasizes professional development on a regular basis. While many of our members understand the need to develop and refine their non-technical skills, there are others who haven't come to grips with how important those skills really are. I'll use this column to tell you what I've learned about this important subject over the course of my career.

From where I sit, I see that engineers are faced with two conflicting realities. The first reality is the importance of our daily work to society. Engineering is vital to making the world a safe, productive, efficient place to live. The second reality, however, is that engineering as a profession is not held in sufficient esteem. As a result, that means that individual engineers sometimes feel they are under-appreciated.

While well-meaning people -- myself among them from time to time -- debate the reason this is so, a third reality is that engineers and their employers can take steps to correct this situation themselves. Professional development that focuses on sharp communications skills, sound project management, and enhanced interpersonal relationships is a good starting point and will reap benefits for the engineers who choose to expand their repertoire of soft skills.

I have noticed over the years that young engineers repeatedly encounter the same scenario. Armed with a new degree and a set of hopeful expectations, they go to work for a corporation, an engineering firm, a government agency, or enter academia to begin their careers. You can spot the fortunate ones without too much trouble. Perhaps they grew up in homes where one or both parents knew the value of good communications skills and teamwork and passed that knowledge along to their children. Or perhaps the new engineer is a quick study and is working with more senior colleagues who are good mentors.

Some aren't so fortunate, however. They don't begin to suspect how their effectiveness will be impaired because their engineering classes haven't prepared them for bringing a project in on time and budget, managing client relationships, coping with different personalities on their team, or relating well to their management.

IEEE-USA's professional development programs can help. Visit our Web page at <http://www.ieeeusa.org/prodevcon> to see the kinds of programs offered and what attendees said about the last Professional Development Conference. In addition, keep yourself apprised of educational opportunities through your Section and Society newsletters.

Plan now to budget for professional development. If you're an employer, consider sending some of your staff - both junior and senior - to develop new skills and refine existing ones. And don't forget to explore other avenues for professional development. Your community may provide opportunities in a college or community college, or through adult education courses through the Board of Education. Further, many publications include articles that offer insight into career-enhancing behaviors, including The Wall Street Journal, Fast Company and Fortune. A subscription to one of these, or another business publication, can be an effective first step toward managing your own professional development program.

Finally, we're planning to launch a quarterly publication, IEEE-USA News & Views, to go to all U.S. members. In addition to featuring professional-related information, it will focus on non-technical subjects to help improve your career possibilities and your worth in the employment marketplace. Make sure you develop the habit of reading it.

FALL ISSUE OF TODAY'S ENGINEER FOCUSES ON TOUGH TOPICS: SOFT SKILLS, RETENTION, MANAGING ACROSS GENERATIONS

Delegating work can be painful, especially for engineers who want to make sure it gets done right the first time. "Passing the Ball, Not the Buck" in the third-quarter issue of Today's Engineer helps explain why delegating is a key managerial skill that must be mastered to keep productivity high.

Experts in delegation offer insights to TE readers, noting that delegation isn't a skill that engineers usually need early in their career. As time goes on, however, and engineers take on more responsibility, the ability to delegate will become critical in staying on top projects and proving your capacity for management. Author Barton Reppert has analyzed the basic steps of delegation and offers practical tips on developing or improving your delegation skills.

In addition, the new issue features other articles designed to make engineers think about the soft skills that complement their technical ones. Three articles address the issue of company loyalty and employee retention. In his guest editorial, Robert W. Lucky of Telcordia Technologies and a member of the TE editorial advisory board, explores the power that employees have in a tight labor market. Try for more responsibility and better assignments from your current employer before you leave to search a greener pasture, he urges.

Richard A. Baker, Jr., a software development manager with Schneider Automation Inc., argues that stable teams and low turnover don't just happen. Instead, they are the result of actively planning for a stable

environment and then making it happen. Organizations will see a direct benefit to the bottom line, Baker says, and outlines the savings in saved time and increased productivity.

"Newsmaker" Jeffrey Pfeffer, Ph.D., who has written extensively on interpersonal relations inside the organization, says that some companies are just toxic, killing loyalty among employees. Is your organization toxic and can it be "cleaned up?" Read his article and find out!

While management issues are important, TE readers find high value in hands-on tips for the daily workplace. This issue offers plenty of them:

Angela R. Tickle, engineering and construction director of the Columbus Airport Authority and 1999-2000 president of the Ohio Society of Professional Engineers, has provided a detailed explanation of the professional and personal benefits that come from membership in professional organizations. Cinda Voegtli, whose Internet firm builds Web sites for project managers, offers some advice for increasing your project influence based on first-hand experience with engineers. And Tom Briscoe, technology product manager at LSI Logic, suggests that the right choice of words can provide a flavor that messages wouldn't otherwise have.

Elsewhere in this issue of TE:

- What happens when Baby-Boomers and Generation X-ers end up managing each other? Catherine S. McGowan suggested that communications can bridge the generation gap in "Across the Great Divide."
- Engineers who are managers must learn to recognize personality styles other than their own and adapt their communications styles accordingly, argues Bill Bonnstetter in "Creative Management for Creative Types."
- "Engineering Trends." Todd Yuzuriha looks at the ethical implications of conflicting obligations that engineers face.
- "Management Briefs." Mike Aucoin ponders schizophrenic project management and toppling sacred cows.

IEEE-USA *PERSPECTIVES* EDITORIAL LOOKS AT BENEFITS AS A RETENTION TOOL

As more and more human resources departments are discovering, today's employees aren't just in it for the money. If you want to recruit and retain the best, you will probably need to offer more than just a hefty salary -- creative benefits packages are becoming the name of the game. Check out George McClure's editorial from the September issue of *IEEE-USA Perspectives* at <http://www.ieeeusa.org/features/benefits.htm>.

IEEE-USA REMEMBERS LONGTIME VOLUNTEER, FRIEND BILL MIDDLETON

This month, IEEE-USA mourns the death of longtime IEEE leader William W. (Bill) Middleton, after a lengthy battle with cancer. Bill's volunteer contributions to IEEE were voluminous -- and he was held in great esteem by staff and volunteers alike.

As an electrical engineering student at Penn State in 1942, Bill started his long association with the Institute of Radio Engineers (IRE) and the American Institute of Electrical Engineers (AIEE). When the two merged to form the IEEE in 1963, he went on to serve the IEEE for 35 years at all levels of committee and board activities in awards, planning, administration, ethics, engineering licensure, state government, chapters, conferences, finance, intellectual property, training and other areas, including IEEE-USA.

The scope of Bill's impact on IEEE-USA was remarkable. He served as IEEE-USA's Controller, as well as Chair of multiple committees, including Ethics, Opinion Survey, and Licensure & Registration. Bill was Chair of the IEEE-USA Member Activities Council in 1993. In 1994, Bill continued to share his talents with IEEE-USA as the liaison to the IEEE Strategic Planning Committee; as liaison to the IEEE Publications Board; as Chair of IEEE-USA's Communications Committee; and in other varied assignments.

Bill served as Editor-in-Chief of *IEEE-USA Professional Perspectives* from 1994-96. During his tenure as Editor, he collaborated with USA staff on many of the format changes that led to the news insert's appearance today.

Bill's selfless contributions to the profession earned him numerous awards and accolades, including the prestigious 1998 IEEE-USA Award for Distinguished Contributions to Engineering Professionalism. He also held the respect, admiration and gratitude of his peers. He was a truly beloved IEEE-USA volunteer, and will always be remembered with the greatest of affection.

Contributions in Bill's memory can be sent to: Bedford Historical Society; 242 East John Street; Bedford, PA 15522; tel. 1-814-623-2011.

FINANCE COMMITTEE APPROVES PENSION REFORM/IRA EXPANSION, GRASSROOTS COMMUNICATIONS ARE NEEDED NOW TO ENSURE FAVORABLE SENATE VOTE

On Sept. 7th, the Senate Finance Committee unanimously approved the Retirement Savings and Security Act (H.R. 1102), which closely resembles the pension reform/IRA expansion legislation passed by the House of Representatives (401 to 25) on July 19th. These measures enjoy broad bipartisan support in both houses of Congress.

Washington insiders say there's a reasonable probability that Congress will pass this important legislation later this month and that President Clinton will sign it. But strong grassroots expressions of support are critical. Unless Senators and Representatives hear from their constituents, the bills could simply fall between the cracks in the press of other urgent business in the closing days of the 106th Congress.

Here's a list of key provisions in the House and Senate bills that IEEE-USA and other Engineering and scientific organizations have endorsed in official letters to members of the House of Representatives and the Senate:

- An increase in the annual limit on contributions to deductible and non-deductible (Roth) IRAs from \$2,000 to \$5,000;
- Increases in contribution limits for defined contribution plans, including 401(k), 403(b) and Section 457 plans, from \$10,500 to \$15,000 a year;
- A special authorization for Baby Boomers (aged 50 and above) to make "catch-up" contributions to IRAs and 401(k) type plans;
- A reduction in cliff vesting requirements for employer matching contributions to defined contribution plans from 5 to 3 years;
- Portability improvement features that will facilitate transfers of earned benefits among and between defined contribution plans and IRAs when workers change jobs; and
- Administrative simplification provisions that will make it easier and less expensive for small businesses to establish retirement savings plans for all of their employees.

A more detailed description of selected IRA, pension coverage, equity, portability, security and simplification provisions in the House and Senate bills is available at <http://www.ieeeusa.org/grassroots/pensions/hr1102.pdf>.

As approved by the Finance Committee, the Senate bill also includes important new provisions intended to increase savings by low and moderate income Americans and establish new safeguards for long tenured participants who may be adversely affected when their employers convert from defined benefit plans to cash balance plans. More specifically, the Senate bill:

- Establishes a temporary, nonrefundable tax credit intended to encourage low and moderate income savers to make first dollar contributions to employer-sponsored defined contribution plans and Individual Retirement Accounts; and
- Offers tax credits to help offset new plan start-up costs and encourage small businesses to contribute to such plans on behalf of non-highly compensated employees.

The Senate bill also mandates detailed disclosures and prohibits the "wear-away" of normal retirement benefits (but not early retirement benefits) when traditional defined benefit plans are converted to career average cash balance plans.

Some Senate Democrats, including Tom Harkin of Iowa, don't think the cash balance protections are strong enough (and plan to offer amendments when the bill reaches the floor). IEEE-USA supports these "wear-away" protections for early retirement benefits and will work for their addition through the legislative process.

The next steps include a Senate vote (possibly as early as Friday, September 22nd), reconciliation of differences between the House and Senate bills and approval by the President before Congress adjourns in early October.

The IEEE Cincinnati Section Executive Committee **Member Names and Phone Numbers**

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